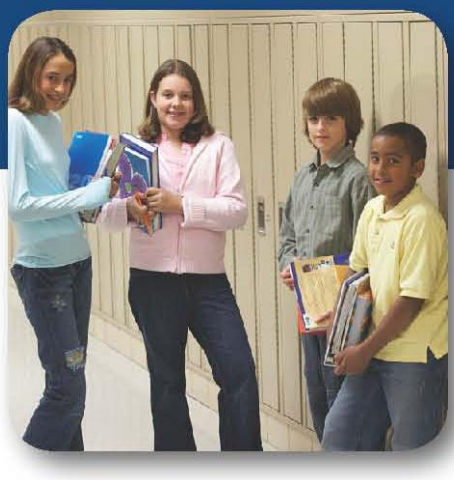
Online Testing Network Evaluation



Version 1.2
October 2017

DATA RECOGNITION
DRC
CORPORATION

	TECHNOLOGY – NETWORK CONFIGURATION
☐	Complete a wireless site survey to assess the wireless coverage in testing areas and review the following areas: **Device Density** Review the number of devices connecting to a single access point. Keep in mind that devices connecting to the access point might not be in the same room as where the testing occurs. If the site has an open network or available guest network, account for any devices that students, proctors, and teachers have connected (e.g., smartphones, laptops, and tablets). **Radio Frequency Interference** Determine whether other devices might cause interference. Wireless networks share the same frequency as many technologies. Any of these devices operating at the same frequency as an access point can cause interference. In addition, wireless access points sharing the same channel may interfere with each other. **Connection Consistency** Consider things that may interrupt the connection between the testing device and the access point. Review whether there are objects obstructing the line of sight between testing devices and access points that could interrupt the connection. Consider whether there are multiple access points that can cause momentary interruptions as a testing device moves from one to another. **2.4 GHz vs. 5 GHz Bands** Determine whether the site's wireless network is using either the 2.4 GHz or 5 GHz bands appropriately. Wireless networks operate in either 2.4 GHz or 5 GHz band. The 5 GHz connection can transmit higher amounts of data with better speed. The 2.4G Hz connection is better for transmitting data over longer ranges, and through walls and other solid objects.
☐	Review the district and school network capacity (LAN, WAN) to administer online testing. Verify that there is available capacity for the number of students taking the test at the same time. Take into account competing network bandwidth and other traffic in the building at the time of testing. Estimated available bandwidth needed from the testing devices to the test content host: ❖ Up to 25 Concurrent Testers: 50 Mb ❖ 26–150 Concurrent Testers: 100 Mb ❖ 151–500 Concurrent Testers: 200 Mb ❖ 501–900 Concurrent Testers: 400 Mb ❖ 901–950 Concurrent Testers: 800 Mb (On the iPad, use the free Apps available in the Apple App Store, like *Speedtest* and *Wi-Fi Sweetspots*, to measure the network performance from the testing device.)
☐	Review the connection from the testing device to the test content, verifying that it is strong and consistent. After the test has started, network requirements are reduced significantly. However, for English Language Learners (ELL) tests, the requirements for the network from the device to the test content remain high. For ELL tests, item content is delivered throughout the test with an average item size of 1.5 MB. This requires a reliable connection throughout the test.
☐	Ensure that all firewall and filters on the computer network are configured and the necessary URLs whitelisted.
☐	Use traffic shaping to give DRC INSIGHT testing traffic priority over other network traffic.
☐	Limit other use of the network during testing, especially high-bandwidth activities such as downloading and watching videos.
☐	Verify that the wireless access point is fully operational.
☐	Require anyone in the testing rooms, or sharing the testing room's wireless access point, to turn off wireless devices that are not used for testing.